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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,822	11/06/2001	Robert R. Moore	ATMI-417-CIP-DIV	2166

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ATMI, INC.
7 COMMERCE DRIVE
DANBURY, CT 06810

EXAMINER

JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,822

Applicant(s)

MOORE ET AL.

Examiner

Jonas N. Strickland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-35 is/are allowed.
- 6) ☒ Claim(s) 22-24 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Detailed Action is in response to the amendment filed on 7/13/05. Claims 22-36 are currently pending. Claims 25, 29, 30, 32, 33, and 36 have been amended to correct minor informalities and no new matter has been added to the claims. Claims 25-35 are allowed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 22-24 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carpenter (US Patent 5,873,388) in view of Nguyen et al. (US Patent 5,919,425) and Itoh et al. (US Patent 4,719,088).

Applicant claims a method for scrubbing chemical pollutants in a gas stream comprising the steps of continuously introducing said gas stream into a scrubbing chamber, said scrubbing chamber containing coated packing in at least two vertically separated beds, said coating being adapted to entrap or react with said pollutants; monitoring the amount of said pollutants being removed from said stream; and

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regenerating the coating on one of said beds while continuously flowing said gas stream through the other of said beds.

Carpenter discloses a process for treating process gases, such as VOCs, which has a multiple vessel of VOC-abatement catalytic oxidation system, having two vessels arranged so that one is on-stream, while one is off-stream, for continuous treatment of the VOC-containing effluent gas stream (col. 2, lines 1-59). Carpenter continues to disclose monitoring the amount of pollutants being removed from the gas stream (col. 10, lines 30-58). Carpenter continues to disclose wherein the monitoring of the gas stream is vital to the cyclic regeneration of the vertical beds used to clean the gas streams. However, Carpenter does not disclose a scrubbing chamber and a coated packing.

Nguyen et al. teaches a catalyzed packing material for regenerative catalytic oxidation for treating volatile organic compounds, carbon monoxide or combinations thereof (see abstract). Nguyen et al. continues to teach wherein the substrate of the packing material is coated and wherein the packing material substrate may be in any configuration, shape, or size, which exposes it to the gas to be treated (col. 6, lines 27-67).

Itoh et al. teaches a process for treating pollutants in gas streams using a scrubber chamber having various kinds of packing material (col. 1, lines 21-29).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Carpenter, based on the teachings of Nguyen et al. and Itoh et al., by using a scrubbing chamber having packing material, which is regenerated, since Itoh et

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al. teaches a process for treating pollutants in gas streams using a scrubbing chamber with various packing materials, and Nguyen et al. teaches using coated packing materials which are regenerated in order to treat pollutants in gaseous streams. Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art, would have expected a process for treating gaseous streams comprised of pollutants as taught by Nguyen et al. and Itoh et al. to be similarly useful and applicable to a process for treating pollutants in gaseous streams as taught by Carpenter. Carpenter continues to disclose wherein the process for treating the pollutants in a gas stream is also useful in regenerative oxidation systems (col. 13, lines 47-50) as also taught by Nguyen et al.

With respect to claims 23 and 24, it would have been obvious to one of ordinary skill in the art to monitor the amount of pollutants leaving the scrubber, as well as regenerating, based on predetermined time intervals, since Carpenter discloses monitoring the amount of pollutants being removed from the gas stream (col. 10, lines 30-58). Carpenter continues to disclose wherein the monitoring of the gas stream is vital to the cyclic regeneration of the vertical beds used to clean the gas streams.

Response to Arguments

5. Applicant's arguments filed 7/13/05 have been fully considered but they are not persuasive.

Applicant argues that the cited prior art fails to disclose a scrubbing chamber containing coated packing in at least two vertically separated beds.

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It should be noted that Carpenter has been applied in order to disclose at least two vertically separated beds (see Figure 2, 202 and 204). Nguyen et al. teaches a catalyzed coated packing material, which is regenerated in order to treat volatile organic compounds (see abstract). Itoh et al. has been applied in order to disclose a scrubber chamber having various kinds of packing materials for treating gaseous pollutants. It would have been obvious to one of ordinary skill in the art to combine the cited references, since all of the cited prior art is directed towards treating gaseous pollutants.

Allowable Subject Matter

6. Claims 25-35 are allowed.

7. The following is an examiner's statement of reasons for allowance: The instant claims 25-35 are allowable over the cited prior art, because claims 25-35 recite wherein the thermal reactor comprises a central chamber comprising heating elements, an entry end and an exit end of the chamber, a side inlet communicating with an exterior air space defined by an exterior wall of the reactor and said heating elements, an interior air space communicating with said exterior air space, said interior space defined by an interior wall of the reactor and said heating elements, and an orifice in said interior wall for introducing air from said interior space into said central chamber.

The cited prior art directed to Carpenter (US Patent 5,873,388), Nguyen et al. (US Patent 5,919,425) and Itoh et al. (US Patent 4,719,088), fail to disclose these limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N. Strickland whose telephone number is 571-272-1359. The examiner can normally be reached on M-TH, 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jonas N. Strickland
September 8, 2005


STANLEY S. SILVERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700